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## NEW GENERA OF AMOBIIN巴

(Diptera)
By CHARLES H. T. TOWNSEND
The Sarcophagidæ proper include the two subfamilies Sarcophaginæ and Amobiinæ, each separable into two tribes, respectively: Sarcophagini, Brachicomini ; and Amobiini, Tephromyiini. To these may probably best be added the Miltogramma and Metopia types as subfamilies, since these forms are more closely related to the Sarcophaga type than to any other. Constituted thus, the family Sarcophagidæ may be quite easily distinguished from the four muscoid families with which it is most nearly allied.

The Muscidæ differ on general metallic coloration, combined with weaker abdominal macrochætæ, usually no wrinkle at bend of fourth vein, absence of incubating uterus, and slight development of dorsopharyngeal sclerite I (first-stage maggot).

The Stomoxydidæ differ on same characters as preceding with exception of the first. The uterovagina functions in Viwiparomusca to incubate one egg at a time.

The Calirrhoidæ differ on generally narrowed or strongly carinate facial plate, stronger macrochætæ, elongate legs, tubular to gutlike incubating uterus, and much reduced cephalopharyngeal skeleton I.

The Dexiidæ differ on the cut-off and scarcely prominent epistoma, stronger macrochætæ, long legs, tubular to ribbonlike uterus, and reduced ceplialopharyngeal skeleton I.

Aside from the Miltogramma and Metopia types, which differ on usually narrower facial plate, V-like uterus, weakly developed or vestigial dorsopharyngeal sclerite, and a variety
of supporting characters, the subfamilies and tribes of Sarcophagidæ may be separated as follows:

1. Vibrissal axis closely approximating antennal axis in length; clypeus depressed, the epistoma warped forward from plane of clypeus, the face dished.
(Sarcophaginæ) 2
Vibrissal axis usually shorter than antennal axis; clypeus not depressed, the epistoma not appreciably warped, face not conspicuously dished................................................. (Amobiinæ) 3
2. Clypeus broad and more or less elongate; facialia more or less flattened, but always showing a distinct convexity and thus contrasted with clypeus, leaving a distinct foveal sinus along their inner edge...................................................Sarcophagini
Clypeus very broad and usually shortened; facialia flattened as though ironed out, their plane gradually warped out and forward from plane of clypeus, leaving no marked foveal sinus, or if sinus is distinct the facialia show no convexity.............Brachicomini
3. Clypeus narrowed and elongate; facialia showing convexity,

Amobiini
Clypeus broad and shortened ; facialia showing no convexity, appearing ironed ont, but their plane nearly in plane of clypeus and with a foveal sinus along their inner edge.

Tephromyiini
The genera of Sarcophagini are treated in another paper (Proc. Biol. Soc. Wash.).

The genera of Brachicomini are: Brachicoma Rdi., Eubrachycoma T., Pumaplyyto T., Microcerella Mcq., Disjunctio Pand., Wohlfahrtia BB., Euparaplyto T., Melanophyto T., Pierretia RD., Hartigia RD. Despite its anomalous female reproductive characters, Eurvchaeta BB. (Helicobosca Bezzi) comes here on external adult characters.

The genera of Amobiini are: Amobia RD., Amobiopsis T., Macronichia Rdi., Paramacronychia BB., Dolichamobia T., Cistuainomvia T., Metoposarophaga T., Raimondia T., Emblemasoma Ald., Harpagoryga Ald., Glaucosarcophaga T., Acridiophaga T., Blaesoripha Lwe, Johnsonia Coq., Rafaelia 'T., Neophyto 'T., Camptops Ald., Oppiopsis T. (syn. Harbeckia Ald.), Xenoppia T. (syn. Camptopyga Ald.), Notochaeta Ald., Stheropyga Ald.. Angiometopa BB., Dexosarcophaga T., Chloronesia. T. To these may be added the following new genera:

Acanthodotheca, new genus.
Differs from Sarcophaga as follows (omitting subfamily and tribe characters above given) : Facialia considerably flattened, but showing convexity. Vibrissee well constricting facial plate. Proboscis not as long as head height. Arista plumose a little over halfway. Male vertex hardly one-half eye, female vertex hardly three-fifths eye. Frontal bristles diverging obliquely two below base antemæ. Female without proclinate frontoorbitals. Male frontalia narrowed. Ocellars present in both sexes. Parafacialia half as wide as clypeus, with row of hairs which are mostly bristly. Cheeks a little over one-third eyelength in both sexes. Postsuturals 3. Preacrostichals present. Costal spine strong. Squamæ longer than wide. Male hind tibie not villous. Male hypopygium not very large. Female hypopygial tergum entire, second hypopygial sternite elongated into a broad sheath densely covered with prickles. Genotype, Sarcophaga prohibita Ald., Sare. and Allies, 133 (1916).
Blæsoxiphotheca, new genus.
Differs from Sarcophaga as follows: Female. Proboscis not as long as head-height. Arista plumose halfway. Eyes proportionately large in front view. Frontals diverging obliquely two below base antenne. Cheeks a little over onethird eye-length. Three postsuturals, preacrostichals present. Strong pair of discal scttellars. Large and strong median marginals on second and third abdominal segments. Apical cell terminating farther from wing-tip. Female hypopygial tergum entire; third hypopzgial sternite modified into a recurved subcylindrical but tapered sheath rounded apically and obliquely shaved off dorsally, in which lies the larvipositor. Genotype, Blaesoriphotheca caudata, n. sp., being female described by Aldrich as Sarcoplaga coloradensis, Sarc. and Allies, 140 (1916). Holotype, No. 2158\%, U. S. Nat. Mus.

The holotype of coloradensis Ald. is a male and belongs to Acridiophaga. Its coloration as well as its structural characters indicate that it does not belong with the female here named caudata.

Eleodiomyia, new genus.
Differs from Sarcophaga as follows: Facialia considerably flattened, vibrissæ constricting facial plate. Proboscis about two-thirds to three-fourths head-height. Palpi greatly swollen apically in female, rather elongate but not so swollen in male. Arista plumose a little over halfway. Male vertex about or nearly one-half eye, female vertex fully as wide as eye. Female parafrontalia about as wide as frontalia. Frontals diverging two below base antennæ. Ocellars present in both sexes. Parafacials with irregular double row of fine hairs. Female cheeks one-third eye-length, male cheeks three-fifths same. Three postsuturals, preacrostichals present. Mesonotum with flattened disk. Approximated pair of discal scutellars. Strong costal spine. Cubitus right-angled V-like, far from hind margin. Squamæ much longer than wide. Hind tibiæ of male not villous. No median marginals on second segment in either sex. Male hypopygium small, winged or narrow forceps spined exteriorly. Female hypopygial tergum entire, flattened. Genotype, Sarcophaga cleodis Ald., Sarc. and Allies, 128 (1916).

## Scarabæophaga, new genus.

Differs from Sarcophaga as follows: Male vertex threefourths eye, female vertex as wide as eye. Frontalia broader than parafrontals in both sexes, not narrowed. Parafacialia a little narrower than clypeus. Squamæ much longer than wide. Hind tibir of male not villous. Male forceps broadened before tip, ending in apical spine. Female hypopygial tergum excised, showing broad vertical slit bordered with bristles and a few bristly hairs next same, the tergum divided on median line into two lobes. Genotype, Sarcophaga utilis Ald., Jour. Econ. Ent., viii, 151 (1915).

Raviniopsis, new genus.
Differs from Sarcophaga as follows: Female. Proboscis shorter than head-height. Arista plumose to tip. Parafrontalia conspicuously broader than frontalia. Frontals descending one below base antemre, weak and short. The two pro-
clinate fronto-orbitals weak and short, the reclinate one strong. Parafacialia fully as broad as clypeus. Cheeks less than onehalf eye-length. No facio-orbitals, the parafacialia with only microscopic pubescence. Only two postsuturals; two strong postacrostichals. Costal spine absent. First vein bristled about halfway. Squamæ longer than wide. No median marginals on second abdominal segment, short weak pair on third segment. Female hypopygial tergum excised, bordered with bristles. Genotype, Raviniopsis aurea, n. sp.

Raviniopsis aurea, new species.
Length of body, 6.5 to 9 mm .; of wing, 5 to 6.5 mm . Two females: Piura, Peru, June 19, 1910 (Townsend) ; and Alhajuelo, Panama, April 10, 1911 (Busck). Holotype, No. 215583, U. S. Nat. Mus.; TD 3902, Piura, Peru.

Antennæ and palpi blackish. frontalia light brown. Head, whole body, and femora silvery pollinose with a pronounced golden shade. The marmorations of abdomen show as a narrow median line, a heavy spot laterally on each segment approximated to hind border, another approximated to front border between the lateral one and the median line. Hypopygium reddish-yellow. Tegulæ watery-white. Legs brown-ish-black.

Sarcophodexia, new genus.
Differs from Sarcophaga as follows: Male. Proboscis shorter than head-height. Arista plumose a little over halfway. Eyes large in front view. Outer verticals distinctly stouter but little longer than occipital fringe. Parafacialia little over half as wide as clypeus, with short bristles on outer haif or so. Cheeks about one-half eye-length. A strong pair of postacrostichals, and a strong pair of discal scutellars. Squame longer than broad. Hind tibiæ not villous. No median marginals on second abdominal segment. Genotype, Sarcophaga hamata Ald., Sarc. and Allies, 272 (1916).
Amblycoryphenes, new genus.
Differs from Sarcophaga as follows: Female. Proboscis little over half head-height. Eyes large. Vertex about two-
thirds eye. Parafrontalia gently narrowing posteriorly, a little narrower than frontalia. Frontals descending obliquely two below base antennæ. Parafacialia less than half as wide as clypeus, with row of bristly hairs doubled below. Cheeks little over one-fourth eye-length. Three postsuturals, preacrostichals present. Squamæ longer than wide. No median marginals on second segment, strong marginal row on third segment. Hypopygial tergum entire. Genotype, Sarcophaga amblycoryphae Coq., Proc. Ent. Soc. Wash., vi, 187 (1904).

## Notochætopsis, new genus.

Differs from Sarcophaga as follows: Proboscis shorter than head-height. Eyes large. Vertex in both sexes about twofifths eye, the front narrowing conspicuously in front of ocellar area. Frontals descending obliquely two below base antennæ. Outer verticals developed in both sexes, but short. No proclinate fronto-orbitals in either sex. Ocellars present. Parafacialia of female half as wide as clypeus, those of male two-thirds same; with single row of bristly hairs. Cheeks about one-third eye-length in both sexes. Three postsuturals, preacrostichals present. Lateral scutellars two. Squame longer than wide. Hind tibir of male not villous. No median marginals on second segment; third segment with strong median marginals. Hypopygial tergum of female entire ; second and third hypopygial sternites forming a short broad sheath to the larvipositor, the third showing thin and translucent. Genotype, Sarcophaga masculina Ald., Sarc. and Allies, 130 (1916).

## Camptopsis, new genus.

Differs from Sarcophaga as follows: Female. Arista shortplumose less than halfway. Eyes very large. Vertex about three-fourths eye. Parafrontalia almost as wide as frontalia; frontals not descending below base antennæ. Outer verticals very short, stouter but scarcely longer than occipital fringe. Only one proclinate fronto-orbital. Ocellars weak. Parafacialia scarcely one-third as wide as clypeus, with only a few microscopic hairs on upper extent in continuation of row on parafrontals. Cheeks hardly over one-seventh eye-length.

Sternopleurals 2, postsuturals 3. Lateral scutellars 2, apical present, no discal. First vein bristled on about basal half. Apical cell ending but little before wing-tip, open. Cubitus right-angled, near border, with very slight wrinkle. Hind cross-vein removed rather over its length from cubitus. Second segment with marginal row of very short weak bristles, except the strong ones at sides. Third segment with marginal row of long and strong bristles. Hypopygial tergum entire. Genotype, Camptopsis miamensis, n. sp.
Camptopsis miamensis, new species.
Length of body, $5 . \% 5 \mathrm{~mm}$.; of wing, 5 mm . One female, Miami, Florida, November 18, 1908 (Townsend). Holotype, No. 21584, U. S. Nat. Mus. ; TD 997.

Silvery-ash pollinose. Frontalia and third antennal joint light brown. First two antennal joints and palpi pale rufous, the palpi tipped with blackish. Second abdominal segment narrowly rufous on hind margin, third segment more broadly so, fourth segment and hypopygium wholly rufous. Legs rufous, tarsi black. Tegulæ whitish.

The genera of Tephromyiini are: Tephromyia BB., Protodexia T., Opsophyto T., Sarcofahrtia Park., Sarcophila Rdi., Listeria RD. To these may be added the following:
Opsophytopsis, new genus.
Differs from Sarcophaga as follows: Female. Arista pubescent on basal half. Eyes large. Vertex only a little over one-half eye. Parafrontalia nearly as wide as frontalia. Frontals diverging obliquely one below base antennæ. Parafacialia about half as wide as clypeus, with broken row of bristly hairs. Cheeks about one-third eye-length. Three postsuturals; preacrostichals present. Cubitus right-angled, No median marginals on second segment; strong ones on third segment. Hypopygial tergum entire. Genotype, Opsophyopsis insularis, n. sp.
Opsophytopsis insularis, new species.
Length of body, $\tau .5 \mathrm{~mm}$.; of wing, 5.5 mm . One female, Albemarle Island, Galapagos, January 18, 1899. Holotype, No. 21585, U. S. Nat. Mus.

Blackish, silvery-ash pollinose. Third antemnal joint subrufous on inside at base. Palpi and frontalia brown. Sides of second and third abdominal segments broadly rufous, anal segment mostly rufous. A median vitta blackish, and a lateral one on each side. Between the lateral vittæ the second and third segments are blackish. Hind margins of segments blackish or brown. The vittæ of abdomen divide the pollen into four silvery spots on second and third segments, less conspicuously so on anal segment. Hypopygium rufous. Legs brown, the tibiæ lighter. Tegulæ nearly white.

Tephomyiella, new genus.
Differs from Sarcophaga as follows: Female. Arista shortplumose halfway. Eyes large. Vertex about three-fourths eye. Parafrontalia nearly as wide as frontalia. Frontals diverging obliquely two below base antenne. Parafacialia about one-third as wide as clypeus, with row of bristly hairs. Cheeks about one-third eye-length. Postsuturals 3; preacrostichals present. One strong postacrostichal. Two lateral scutellars. Cubitus right-angled. No median marginals on second segment, weak marginal row on third segment. Hypopygial sternite modified into a short spatulate sheath to larvipositor, no longer than first sternite and about as broad at base as latter is at junction therewith. Genotype, Tepluromyiella frankliniana, n. sp., being female described by Aldrichs as Sarcophaga atlanis, Sarc. and Allies, 102 (1916). Holotype, No. 21586, U. S. Nat. Mus.

The structural characters indicate that this can not be the female of atlanis Ald. It is even quite doubtful if frankliniana is congeneric with atlanis. The latter has median marginals on second abdominal segment, 4 pairs of postacrostichals, flat disk to mesonotum, hind femora with median longitudinal row of bristles, third antennal joint short and narrowed, tegulæ mostly dirty fuscous; strongly contrasting with frankliniana, which has no median marginals on second segment, only 1 pair of postacrostichals, no flattening of mesonotum, hind femora without vestige of median row of bristles, third antennal joint long and broad, tegulæ white.

